QUALITY ASSURANCE REPORT/QUALITY CONTROL REPORT

AEE/QA/PR/87/2022-23, DATE: 27/03/2023		
Name of Work	:	Improvements to Roads and drain at Kogilu and Kogilu Layout in Ward No.06 Kogilu Estimated cost 70.00 Lakhs
Job Code	:	006-23-000013
Bill No.& Amount	:	**1st&Final Bill.Rs.73,44,969.50 (Including GST)**
Name of Agency	:	**M/s K R Constructions PROP. C Mahesh**
Type of Test Performed	:	Bitumen Content and Gradation test as per Table 500.10&Table 500.17 MoRTH V Revision.
Materials on which Tests Was Performed	:	1. Dense Bituminous Concrete (Grade II) 2. Bituminous Concrete (Grade II)
Officers present during inspection	:	1. Sri. Mahantesh AE- Ward No 06 2. Smt. L.VaralakshmiEE-Quality Assurance 3. Sri .K.M.Yadukrishna AEE-Quality Assurance
Project Management Consultants	:	Civil Pro
Observations	:	➢ Bitumen content & Gradation test was conducted by Project Management Consultants representative at random locations in presence of AE(Ward No.06) along with EE QA division& AEE QA division. ➢ The Bitumen content & Gradation Test were conducted for DBM (Grade II) & BC (Grade-II). The readings and results are recorded by the PMC consultants. ➢ The readings of Bitumen Content & Gradation Test results are tabulated and analysis of test results done by PMC is here by furnished. ➢ The location wise test results are reproduced in the tables shown below.
Test Locations	:	**Location 1**: Prakruthi nagar 2nd Cross, Kogilu (2nd cross infront of varalaxmi nilaya, Near Ragavendra Beakery, Infront of Matrushri nilaya, 3rd cross infront of JSR Handlooms)

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ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಗುಣಪರವಸಿ/ಗುಣನಿಯಂತ್ರಣ ಉಪ-ವಿಭಾಗ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

Table-01: Bitumen Content and gradation Test Results for Prakruthi nagar 2nd Cross, Kogilu random locations DBM- (GRADE-II)

Landmark/Location	2nd cross infront of varalaxmi nilaya	Near Ragavendra Beakery	Infront of Matrushri nilaya	3rd cross infront of JSR Handlooms
Description	Trial 1	Trail 2	Trail 3	Trail 4
1.Initial weight of sample (gms) w1	338	342	333	330
2. final weight of sample after extraction (gms) w2	324.5	328.5	320	317
3. Initial weight of filter paper (gms) w3	4	4	4	4
4. Final weight of filter paper (gms) w4	6	6	6	6
5.Increased weight of filter paper (gms) w5=(w4-w3)	2	2	2	2
6. Weight of Bitumen Extracted (gms). w6=w1-w2+w5	15.5	15.5	15	15
7. Bitumen content in % (w6/w1)x100	4.59	4.53	4.50	4.55
8.Average	4.54			

SIEVE SIZE mm	Trail 1				Requirement as per MORTH table 500.10
	Weight Retained, gm	Cumulative Weight Retained	Cumulative %Retained	Cumulative% Passing	
37.5	0	0	0.0	100.0	100
26.5	16	16	4.9	95.1	90 - 100
19	51	67	20.6	79.4	71 - 95
13.2	45	112	34.5	65.5	56 - 80
4.75	80	192	59.2	40.8	38 - 54
2.360	28	220	67.8	32.2	28 - 42
0.300	47	267	82.3	17.7	7 - 21
0.075	40	307	94.6	5.4	2 - 8
SIEVE SIZE mm	Trail 2				Requirement as per MORTH table 500.10
	Weight Retained, gm	Cumulative Weight Retained	Cumulative %Retained	Cumulative% Passing	
37.5	0	0	0.0	100.0	100
26.5	17	17	5.2	94.8	90 - 100
19	55	72	21.9	78.1	71 - 95
13.2	42	114	34.7	65.3	56 - 80
4.75	81	195	59.4	40.6	38 - 54
2.360	27	222	67.6	32.4	28 - 42
0.300	49	271	82.5	17.5	7 - 21
0.075	36	307	93.5	6.5	2 - 8
SIEVE SIZE mm	Trail 3				Requirement as per MORTH table 500.10
	Weight Retained, gm	Cumulative Weight Retained	Cumulative %Retained	Cumulative% Passing	
37.5	0	0	0.0	100.0	100
26.5	14	14	4.4	95.6	90 - 100
19	57	71	22.2	77.8	71 - 95
13.2	41	112	35.0	65.0	56 - 80
4.75	83	195	60.9	39.1	38 - 54
2.360	29	224	70.0	30.0	28 - 42
0.300	46	270	84.4	15.6	7 - 21
0.075	30	300	93.8	6.3	2 - 8

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ಗುಣಭರವಸೆ/ಗುಪವಿಯಂತ್ರ ಉಪ-ವಿಭಾಗ
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SIEVE SIZE mm	Trail 4				Requirement as per MORTH table 500.10
	Weight Retained, gm	Cumulative Weight Retained	Cumulative %Retained	Cumulative% Passing	
37.5	0	0	0.0	100.0	100
26.5	15	15	4.7	95.3	90 - 100
19	52	67	21.1	78.9	71 - 95
13.2	47	114	36.0	64.0	56 - 80
4.75	68	182	57.4	42.6	38 - 54
2.360	33	215	67.8	32.2	28 - 42
0.300	48	263	83.0	17.0	7 - 21
0.075	31	294	92.7	7.3	2 - 8

Table-02: Bitumen Content and gradation Test Results for Prakruthi nagar 2nd Cross, Kogilu random locations BC- (GRADE-II)

Landmark/Location	2nd cross infront of varalaxmi nilaya	Near Ragavendra Beakery	Infront of Matrushri nilaya	3rd cross infront of JSR Handlooms
Description	Trial 1	Trail 2	Trail 3	Trail 4
1.Initial weight of sample (gms) w1	337	333	326	329
2. final weight of sample after extraction (gms) w2	320.5	317	310	313
3. Initial weight of filter paper (gms) w3	4	4	4	4
4. Final weight of filter paper (gms) w4	6	6	6	6
5.Increased weight of filter paper (gms) w5=(w4-w3)	2	2	2	2
6. Weight of Bitumen Extracted (gms). w6=w1-w2+w5	18.5	18	18	18
7. Bitumen content in % (w6/w1)x100	5.49	5.41	5.52	5.47
8.Average	5.47			

SIEVE SIZE mm	Trail 1				Requirement as per MORTH table 500.17
	Weight Retained, gm	Cumulative Weight Retained	%Cumulative Retained	% Passing	
19.00	0	0	0.0	100.0	100
13.2	9	9	2.8	97.2	90-100
9.5	72	81	25.3	74.7	70-88
4.75	63	144	44.9	55.1	53-71
2.36	33	177	55.2	44.8	42-58
1.18	20	197	61.5	38.5	34-48
0.6	31	228	71.1	28.9	26-38
0.3	27	255	79.6	20.4	18-28
0.15	22	277	86.4	13.6	12-20
0.075	26	303	94.5	5.5	4-10
SIEVE SIZE mm	Trail 2				Requirement as per MORTH table 500.17
	Weight Retained, gm	Cumulative Weight Retained	%Cumulative Retained	% Passing	
19.00	0	0	0.0	100.0	100
13.2	10	10	3.2	96.8	90-100
9.5	66	76	24.0	76.0	70-88
4.75	60	136	42.9	57.1	53-71
2.36	34	170	53.6	46.4	42-58
1.18	29	199	62.8	37.2	34-48
0.6	26	225	71.0	29.0	26-38
0.3	28	253	79.8	20.2	18-28
0.15	20	273	86.1	13.9	12-20
0.075	18	291	91.8	8.2	4-10

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SIEVE SIZE mm	Trail 3				Requirement as per MORTH table 500.17
	Weight Retained, gm	Cumulative Weight Retained	%Cumulative Retained	% Passing	
19.00	0	0	0.0	100.0	100
13.2	14	14	4.5	95.5	90-100
9.5	67	81	26.1	73.9	70-88
4.75	56	137	44.2	55.8	53-71
2.36	31	168	54.2	45.8	42-58
1.18	20	188	60.6	39.4	34-48
0.6	27	215	69.4	30.6	26-38
0.3	33	248	80.0	20.0	18-28
0.15	19	267	86.1	13.9	12-20
0.075	16	283	91.3	8.7	4-10

SIEVE SIZE mm	Trail 4				Requirement as per MORTH table 500.17
	Weight Retained, gm	Cumulative Weight Retained	%Cumulative Retained	% Passing	
19.00	0	0	0.0	100.0	100
13.2	12	12	3.8	96.2	90-100
9.5	65	77	24.6	75.4	70-88
4.75	61	138	44.1	55.9	53-71
2.36	33	171	54.6	45.4	42-58
1.18	20	191	61.0	39.0	34-48
0.6	34	225	71.9	28.1	26-38
0.3	20	245	78.3	21.7	18-28
0.15	22	267	85.3	14.7	12-20
0.075	23	290	92.7	7.3	4-10

Conclusion:

The file containing **1st & Final bill** has been submitted for the above work to QA department on 23.06.2023 requesting for spot inspection. Engineers of QA/QC division have visited the work spot on 03.08.2023 & 14.09.2023

PMC team was instructed to assess the strength of Gradation & Bitumen content test for DBM (Grade II) &BC (Grade-II) on Asphalted road . The Bitumen Content and Gradation Tests were conducted by PMC in presence of engineer in charge of work.

From the test results furnished by PMC, it is concluded that the results of the samplescollected are in accordance with the standards/ specifications mention in the IRC codes. However, the results submitted by the PMC have been reproduced here with for further needful action. The results checked by QA/QC relates only for item tested in the particular location randomly.

Engineer in charge of work shall ensure that work executed as per this bill is not claimed in any other bill /work or else Engineer in charge of work shall be held responsible.

Further, QA/QC directs the Engineer in-charge of the work that all materials used for the work shall be inspected, tested and accepted as per the relevant specifications before incorporation in the work. The frequencies and methods of sampling and testing materials, including those required for definite purpose and not covered by MORT&H specifications shall be in accordance to the relevant IRC or BIS or AASHTO/ASTM/BS standards in order of priority.

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All materials or work not conforming to the requirements of the specifications shall be considered unacceptable and rejected. The unacceptable materials or works that are rejected shall be immediately removed unless the defects are corrected and approved by the engineer in-charge of work.

The concerned Engineer in charge of the work shall follow the direction issued by Chief Commissioner Letter number dated 01.08.2022 and 14.09.2022 and take necessary action as appropriate in accordance with the law.

Note: -

This report by QA/QC is pertaining to the work carried out in **1st & final bill** only. Safety precautions shall be taken at work spot to prevent any mishap, injuries or loss of life to general public and construction workers according to guidelines laid down in code of practices.

Engineer in charge of work and Agency shall ensure that if any damages or defects occur pertaining to the executed work within the Defect Liability period (DLP), The same shall be rectified immediately on top priority without fail.

Engineer in charge of work shall ensure that any changes/ modification/change in location in the sanctioned estimate to be got approved by competent authority.

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Location 1: Prakruthi nagar 2nd Cross, Kogilu (2nd cross infront of varalaxmi nilaya, Near Ragavendra Beakery, Infront of Matrushri nilaya, 3rd cross infront of JSR Handlooms)

GPS Map Camera
Bengaluru,KA,India
2nd Cross Road, Kogilu, Bengaluru, 560064, KA, India
Lat 13.103463, Long 77.610741
08/03/2023 06:40 PM GMT+05:30
Note : Captured by GPS Map Camera

GPS Map Camera
Bengaluru,KA,India
2nd Cross Road, Kogilu, Bengaluru, 560064, KA, India
Lat 13.103463, Long 77.610729
08/03/2023 06:40 PM GMT+05:30
Note : Captured by GPS Map Camera

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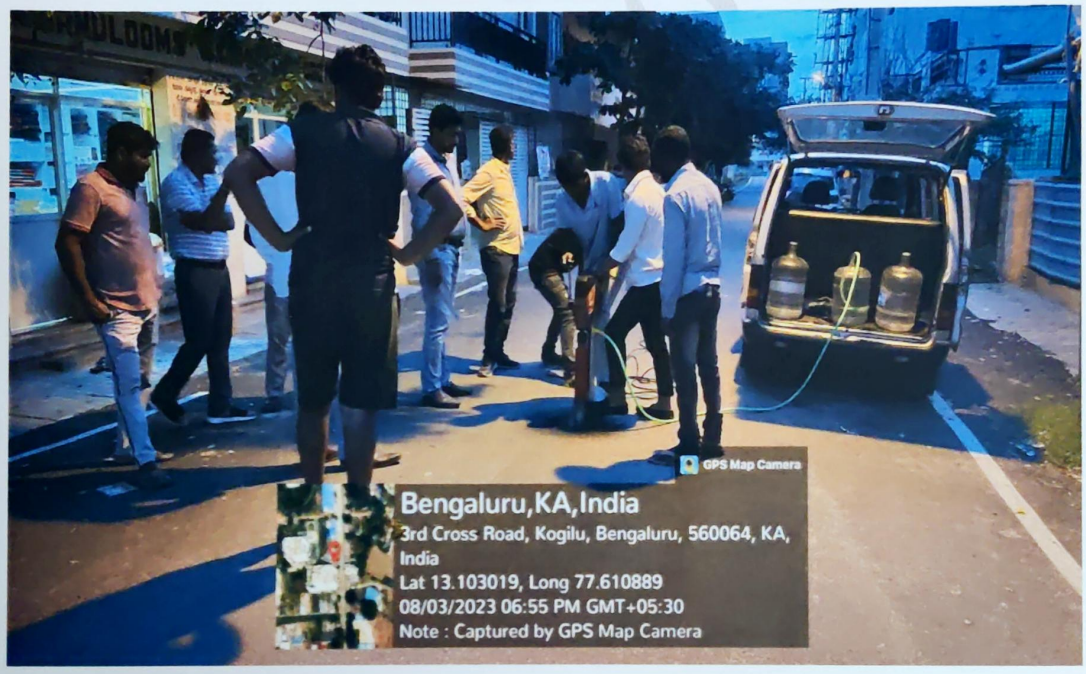
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ ಉಪ-ವಿಭಾಗ --
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ



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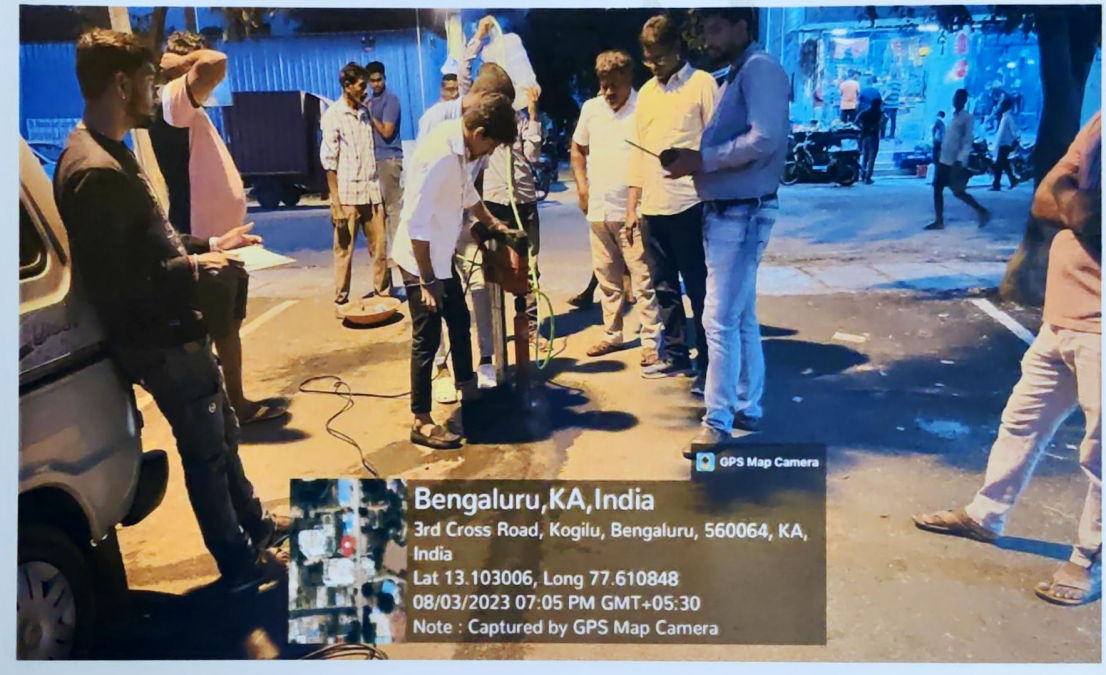
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ



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K. M. ಈಶ್ವರಪ್ಪ 27/9/23

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ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ